

What is claimed is:

1. A power supply apparatus comprising:

a DC power supply;

5 a series circuit including first and second current conducting devices connected in series across said DC power supply;

first and second semiconductor switching devices connected in series across said DC power supply and adapted to be alternately rendered conductive;

a load circuit connected between the junction of said first and second
10 current conducting devices and the junction of said first and second semiconductor switching devices;

a first snubber circuit connected in parallel with said first semiconductor switching device, said first snubber circuit comprising a first snubber capacitor and a first snubber unidirectionally conducting device connected in series with
15 said first snubber capacitor in such a manner that said first snubber capacitor can be charged when said first semiconductor switching device is nonconductive;

a second snubber circuit connected in parallel with said second semiconductor switching device, said second snubber circuit comprising a
20 second snubber capacitor and a second snubber unidirectionally conducting device connected in series with said second snubber capacitor in such a manner that said second snubber capacitor can be charged when said second semiconductor switching device is nonconductive;

a first regenerative circuit connected between said DC power supply and
25 said first snubber capacitor; and

a second regenerative circuit connected between said DC power supply and said second snubber capacitor;

said first regenerative circuit being connected between the junction of said first snubber capacitor and said first snubber unidirectionally conducting
30 device and said DC power supply, and including first voltage inducing means for

converting a voltage across said load circuit and supplying a converted voltage to said first regenerative circuit when said first semiconductor switching device is conductive;

5 said second regenerative circuit being connected between the junction of said second snubber capacitor and said second snubber unidirectionally conducting device and said DC power supply, and including second voltage inducing means for converting a voltage across said load circuit and supplying a converted voltage to said second regenerative circuit when said second semiconductor switching device is conductive.

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2. The power supply apparatus according to Claim 1 wherein said load circuit includes a first transformer with rectifying means disposed in a secondary side thereof.

15 3. The power supply apparatus according to Claim 1 further comprising a series combination of a unidirectionally conducting device and a reactor connected to each of said first and second voltage inducing means.

20 4. The power supply apparatus according to Claim 3 wherein said first and second voltage inducing means are secondary windings of a second transformer, and said reactors are provided by leakage inductance of said secondary windings of said second transformer.

25 5. The power supply apparatus according to Claim 2 wherein said first and second voltage inducing means are secondary windings of said first transformer sharing a common core.

30 6. The power supply apparatus according to Claim 2 wherein said first and second voltage inducing means and a primary winding of said first transformer share a common core.

7. The power supply apparatus according to Claim 1 wherein first and second unidirectionally conducting devices are connected in anti-parallel relation with said first and second semiconductor switching devices, respectively.

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